

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/010315

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F28D7/16 F28F9/16 F28F7/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 F28D F28F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 668 757 A (OTTO E. RIEDER) 13 June 1972 (1972-06-13) the whole document	1,3-13
X	FR 2 825 456 A1 (VALEO THERMIQUE MOTEUR) 6 December 2002 (2002-12-06) page 1, lines 6-8 page 3, line 27 - page 6, line 16; figures 1-6	1-5,8, 11-14
X	PATENT ABSTRACTS OF JAPAN vol. 012, no. 018 (M-660), 20 January 1988 (1988-01-20) & JP 62 176811 A (KOMATSU LTD), 3 August 1987 (1987-08-03) abstract; figures 1-7	1,5,8,9

-/--

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

8 document member of the same patent family

Date of the actual completion of the international search

25 January 2005

Date of mailing of the international search report

01/02/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5618 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Leclaire, T

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/010315

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	DE 103 05 031 A1 (BROEKELMANN ALUMINIUM F W 'DE!') 9 September 2004 (2004-09-09) the whole document	1-5,7-13
A	DE 38 31 812 A1 (INTERATOM GMBH, 5060 BERGISCH GLADBACH, DE; DIDIER-WERKE AG, 6200 WIES) 22 March 1990 (1990-03-22) the whole document	1
A	EP 1 154 143 A (HINO MOTORS, LTD) 14 November 2001 (2001-11-14) column 2, line 50 - column 3, line 7; figures 1-9	1-13

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP2004/010315

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3668757	A	13-06-1972	NONE	
FR 2825456	A1	06-12-2002	NONE	
JP 62176811	A	03-08-1987	NONE	
DE 10305031	A1	09-09-2004	NONE	
DE 3831812	A1	22-03-1990	NONE	
EP 1154143	A	14-11-2001	JP 2000213425 A EP 1154143 A1 WO 0043662 A1 US 2002162651 A1	02-08-2000 14-11-2001 27-07-2000 07-11-2002